

Transmitted Via Facsimile to (571) 273-8300

9D-HL-20014
PATENT

Remarks

The Office Action dated August 8, 2005 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-5 and 7-18 are now pending in this application. Claims 1-5 and 7-18 stand rejected. Claims 1, 3, 8, and 14 have been amended. Claims 7 and 18 have been canceled.

The rejection of Claims 1-5 and 7-18 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, is respectfully traversed.

The Office Action asserts that the claim limitation of "the sensed speed is independent of oscillations of the agitation element and the basket" is not described in the disclosure. Paragraph 0029 of the disclosure, in part, states:

"Specifically, and referring to Figure 4, a magnet 200 is mounted to drive shaft 202, and two sensors 204 and 206 spaced about 180 degrees apart are positioned to generate a pulse signal when magnet 200 passes thereby. With such multiple sensor configuration, a pattern of signals can be expected during agitation operation. That is, after energizing first sensor 204, second sensor 206 is energized before first sensor 204 is again energized. By placing sensors 204 and 206 far enough apart, the oscillation of basket 70 will not affect the accuracy of the speed determined from the sensor signals."

Further, Paragraph 0031 of the disclosure, in part, with reference to Figure 5 states:

"Specifically, by placing two magnets 212 and 214 on shaft 202 with opposite polarities and 180 degrees apart, a single latching Hall sensor 216 is positioned to generate signals representative of rotation of shaft 202 without being significantly impacted by the oscillation effect. That is, agitate oscillations are not sensed unless shaft 202 oscillates by greater than about 150 degrees."

Applicants respectfully submit that the above referenced sections of the disclosure would clearly convey to one of ordinary skill in the art that Applicants had possession of the invention. Notwithstanding the above, independent Claims 1, 8, and 14 have been amended to delete the

Transmitted Via Facsimile to (571) 273-8300

9D-HL-20014
PATENT

limitations related to agitator and basket oscillations. Accordingly, Applicants respectfully request that section 112, first paragraph, rejection of Claims 1-5 and 7-18 be withdrawn.

The rejection of Claims 1-5 and 7-18 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention, is respectfully traversed.

Independent Claims 1, 8, and 14 have been amended deleting the questioned claim limitations. Accordingly, Applicants respectfully request that section 112, second paragraph, rejection of Claims 1-5 and 7-18 for failing to point out and distinctly claim the subject matter of the invention be withdrawn.

The rejection of Claims 1-5 and 7-18 under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential steps, is respectfully traversed.

Independent Claims 1, 8, and 14 have been amended deleting the questioned claim limitations. Accordingly, Applicants respectfully request that section 112, second paragraph, rejection of Claims 1-5 and 7-18 for omitting essential steps be withdrawn.

The rejection of Claims 1-5, 7-9, 13-15, and 17-18 under 35 U.S.C. § 102(e) as being anticipated by Chamberlin et al. ("Chamberlin") (U.S. Patent No. 6,568,018) is respectfully traversed.

Chamberlin describes a speed sensing system for a washing machine (10) that includes a housing (12), a lid (20), and a tub (21) containing a basket 22 with an agitator (23). The basket is mounted for rotation on an output shaft (24) of a drive shaft (25). A counterweight (30) rotates with the drive shaft. The speed sensing system includes a one part speed sensor (60) that is fixedly mounted in the washer housing so as to detect the passage of the counterweight (30) as it rotates with the drive shaft. The sensor is coupled to a circuit (64) that may be used in a lid lock system. Notably, the described lid lock system operates about only one predetermined

Transmitted Via Facsimile to (571) 273-8300

9D-HL-20014
PATENT

speed. "When the basket 22 is rotating above a predetermined speed, the output 206 will turn on (S) causing transistor 210 to conduct and thereby energize actuator 120 and lock the lid 20.

When the speed of basket 22 falls below the predetermined speed, the output 206 will change the state of, or turn off, spin signal S thereby deenergizing actuator 120 and allowing lid 20 to be opened." (emphasis added) (col. 6, lines 6-9).

Claim 1 recites a method for controlling locking a lid of a washing machine, wherein the washing machine includes an agitation element and a basket. The method includes the steps of: "sensing a spin speed associated with a spin speed of at least one of the agitation element and the basket; causing the lid to be locked when the sensed spin speed exceeds a first predetermined speed; after the first predetermined speed is reached, causing the lid to remain locked until a second predetermined speed is reached that is less than the first predetermined speed; and causing the lid to be unlocked when the sensed spin speed is below the second predetermined speed".

Chamberlin neither describes nor suggests a method for controlling the locking of a lid of a washing machine as recited in Claim 1. More specifically, Chamberlin does not describe or suggest causing the lid to be locked when the sensed spin speed exceeds a first predetermined speed; after the first predetermined speed is reached, causing the lid to remain locked until a second predetermined speed is reached that is less than the first predetermined speed. Rather, Chamberlin describes a lid locking system wherein the lid is locked when the sensed speed is above a predetermined speed and unlocked when the sensed speed is below the same predetermined speed. Accordingly, for the reasons set forth above, Claim 1 is submitted to be patentable over Chamberlin.

Claims 2-5 depend from independent Claim 1. When the recitations of Claims 2-5 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2-5 likewise are patentable over Chamberlin. Claim 7 and 18 have been canceled.

Transmitted Via Facsimile to (571) 273-8300

9D-HL-20014
PATENT

Claim 8 recites a lid lock system for a washing machine, wherein the washing machine includes a lid, an agitation element, a basket, and a transmission and clutch system, the transmission and clutch system including a drive shaft coupled to the agitation element and basket for causing the agitation element and basket to spin, the lid lock system including "a sensor for generating an output signal associated with a spin speed of at least one of the agitation element and basket; a lid lock solenoid for controlling operation of a lid lock; and a control circuit for energizing the lid lock solenoid based on the sensor output signal, wherein said control circuit energizes said solenoid to lock the lid when the sensor output signal is indicative of a speed that exceeds a first predetermined speed, maintains the lid in the locked condition until the sensor output signal is indicative of a second predetermined speed less than the first predetermined speed after the first predetermined speed is reached, and de-energizes said solenoid to unlock the lid when the sensor output signal is indicative of a speed that is below the second predetermined speed".

Chamberlin neither describes nor suggests a lid lock system as recited in Claim 8. More specifically, Chamberlin does not describe or suggest a lid lock system wherein the control circuit energizes the solenoid to lock the lid when the sensor output signal is indicative of a speed that exceeds a first predetermined speed, maintains the lid in the locked condition until the sensor output signal is indicative of a second predetermined speed less than the first predetermined speed after the first predetermined speed is reached, and de-energizes the solenoid to unlock the lid when the sensor output signal is indicative of a speed that is below the second predetermined speed. Rather, Chamberlin describes a lid locking system wherein the lid is locked when the sensed speed is above a predetermined speed and unlocked when the sensed speed is below the same predetermined speed. Accordingly, for the reasons set forth above, Claim 8 is submitted to be patentable over Chamberlin.

Transmitted Via Facsimile to (571) 273-8300

9D-HL-20014
PATENT

Claims 9, 13 and 17 depend from independent Claim 8. When the recitations of Claims 9, 13 and 17 are considered in combination with the recitations of Claim 8, Applicants submit that dependent Claims 9, 13 and 17 likewise are patentable over Chamberlin.

Claim 14 recites a washing machine including "a cabinet comprising an opening; a lid movable from and between an open position and a closed position over said opening; a lid lock for locking said lid in a closed position; a basket mounted within said cabinet; an agitation element mounted within said basket; a drive system coupled to said agitation element and to said basket; and a lid lock circuit comprising a sensor for generating an output signal associated with a spin speed of at least one of said agitation element and basket, a lid lock solenoid for controlling operation of said lid lock, and a control circuit for energizing said lid lock solenoid based on the sensor output signal, wherein said control circuit energizes said solenoid to lock said lid when the sensor output signal is indicative of a speed that exceeds a first predetermined speed, maintains said lid in the locked condition until the sensor output signal is indicative of a second predetermined speed less than the first predetermined speed after the first predetermined speed is reached, and de-energizes said solenoid to unlock said lid when the sensor output signal is indicative of a speed that is below the second predetermined speed".

Chamberlin neither describes nor suggests a washing machine as recited in Claim 14. More specifically, Chamberlin does not describe or suggest a control circuit that energizes the solenoid to lock the lid when the sensor output signal is indicative of a speed that exceeds a first predetermined speed, maintains the lid in the locked condition until the sensor output signal is indicative of a second predetermined speed less than the first predetermined speed after the first predetermined speed is reached, and de-energizes the solenoid to unlock the lid when the sensor output signal is indicative of a speed that is below the second predetermined speed. Rather, Chamberlin describes a lid locking system wherein the lid is locked when the sensed speed is above a predetermined speed and unlocked when the sensed speed is below the same predetermined speed. Accordingly, for the reasons set forth above, Claim 14 is submitted to be patentable over Chamberlin.

Transmitted Via Facsimile to (571) 273-8300

9D-HL-20014
PATENT

Claim 15 depends from independent Claim 14. When the recitations of Claim 15 are considered in combination with the recitations of Claim 14, Applicants submit that dependent Claim 15 likewise is patentable over Chamberlin.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-5, 7-9, 13-15, and 17-18 be withdrawn.

The rejection of Claims 10-12 and 16 under 35 U.S.C. § 103(a) as being unpatentable over Chamberlin in view of Huang (U.S. Patent No. 5,598,074) or Harwood et al. (U.S. Patent No. 5,768,728) is respectfully traversed.

Chamberlin is described above. Huang describes virtual Hall effect signal generating circuitry that can be used in new motors or retrofit into existing motors to replace Hall effect sensors. The solid state circuitry takes the place of Hall effect sensors.

Harwood et al. describe the use of Hall sensors to determine the speed of a washing machine motor.

Claims 10-12 depend from Claim 8, which recites a lid lock system for a washing machine, wherein the washing machine includes a lid, an agitation element, a basket, and a transmission and clutch system, the transmission and clutch system including a drive shaft coupled to the agitation element and basket for causing the agitation element and basket to spin, the lid lock system including "a sensor for generating an output signal associated with a spin speed of at least one of the agitation element and basket; a lid lock solenoid for controlling operation of a lid lock; and a control circuit for energizing the lid lock solenoid based on the sensor output signal, wherein said control circuit energizes said solenoid to lock the lid when the sensor output signal is indicative of a speed that exceeds a first predetermined speed, maintains the lid in the locked condition until the sensor output signal is indicative of a second predetermined speed less than the first predetermined speed after the first predetermined speed is

Transmitted Via Facsimile to (571) 273-8300

9D-HL-20014
PATENT

reached, and de-energizes said solenoid to unlock the lid when the sensor output signal is indicative of a speed that is below the second predetermined speed".

None of Chamberlin, Huang, or Harwood, considered alone or in combination, describe or suggest a lid lock system as recited in Claim 8. More specifically, none of Chamberlin, Huang, or Harwood, considered alone or in combination, describe or suggest a lid lock system wherein the control circuit energizes the solenoid to lock the lid when the sensor output signal is indicative of a speed that exceeds a first predetermined speed, maintains the lid in the locked condition until the sensor output signal is indicative of a second predetermined speed less than the first predetermined speed after the first predetermined speed is reached, and de-energizes the solenoid to unlock the lid when the sensor output signal is indicative of a speed that is below the second predetermined speed. Rather, Chamberlin describes a lid locking system wherein the lid is locked when the sensed speed is above a predetermined speed and unlocked when the sensed speed is below the same predetermined speed. Huang describes signal generating circuitry to replace Hall effect sensors. Harwood describes the use of Hall sensors to determine the speed of a washing machine motor. Accordingly, for the reasons set forth above, Claim 8 is submitted to be patentable over Chamberlin in view of Huang and further in view of Harwood et al.

Claims 10-12 depend from independent Claim 8. When the recitations of Claims 10-12 are considered in combination with the recitations of Claim 8, Applicants submit that dependent Claims 10-12 likewise are patentable over Chamberlin in view of Huang and further in view of Harwood et al.

Claim 16 depends from Claim 14, which recites, a washing machine including "a cabinet comprising an opening; a lid movable from and between an open position and a closed position over said opening; a lid lock for locking said lid in a closed position; a basket mounted within said cabinet; an agitation element mounted within said basket; a drive system coupled to said agitation element and to said basket; and a lid lock circuit comprising a sensor for generating an output signal associated with a spin speed of at least one of said agitation element and basket, a

Transmitted Via Facsimile to (571) 273-8300

9D-HL-20014
PATENT

lid lock solenoid for controlling operation of said lid lock, and a control circuit for energizing said lid lock solenoid based on the sensor output signal, wherein said control circuit energizes said solenoid to lock said lid when the sensor output signal is indicative of a speed that exceeds a first predetermined speed, maintains said lid in the locked condition until the sensor output signal is indicative of a second predetermined speed less than the first predetermined speed after the first predetermined speed is reached, and de-energizes said solenoid to unlock said lid when the sensor output signal is indicative of a speed that is below the second predetermined speed".

None of Chamberlin, Huang, or Harwood, considered alone or in combination, describe or suggest a washing machine as recited in Claim 14. More specifically, none of Chamberlin, Huang, or Harwood, considered alone or in combination, describe or suggest a control circuit that energizes the solenoid to lock the lid when the sensor output signal is indicative of a speed that exceeds a first predetermined speed, maintains the lid in the locked condition until the sensor output signal is indicative of a second predetermined speed less than the first predetermined speed after the first predetermined speed is reached, and de-energizes the solenoid to unlock the lid when the sensor output signal is indicative of a speed that is below the second predetermined speed. Rather, Chamberlin describes a lid locking system wherein the lid is locked when the sensed speed is above a predetermined speed and unlocked when the sensed speed is below the same predetermined speed. Huang describes signal generating circuitry to replace Hall effect sensors. Harwood describe the use of Hall sensors to determine the speed of a washing machine motor. Accordingly, for the reasons set forth above, Claim 14 is submitted to be patentable over Chamberlin in view of Huang and further in view of Harwood et al.

Claim 16 depends from independent Claim 14. When the recitations of Claim 16 are considered in combination with the recitations of Claim 14, Applicants submit that dependent Claim 16 likewise is patentable over Chamberlin in view of Huang and further in view of Harwood et al.

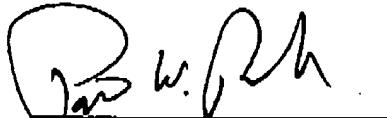
Transmitted Via Facsimile to (571) 273-8300

9D-HL-20014
PATENT

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 10-12 and 16 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



Patrick W. Rasche
Registration No. 37,916
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070